

INTERNATIONAL SEARCH REPORT

Int onal Application No
PCT/GB 03/04906

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G02B6/12 H01S5/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G02B H01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 690 533 A (AT & T CORP) 3 January 1996 (1996-01-03) column 4, line 26 - line 37 column 4, line 55 - column 5, line 22 column 5, line 46 - column 6, line 2 column 6, line 38 - line 44; figures 4-6	1,2,4, 6-8,15, 16,19, 25-27
X	US 4 875 216 A (THORNTON ROBERT L ET AL) 17 October 1989 (1989-10-17)	1-3,6,9, 10,15, 16,19, 21,25,28 20
A	abstract column 5, line 10 - line 20 column 11, line 4 - line 21 column 11, line 43 - line 57; figure 4A -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

16 March 2004

Date of mailing of the international search report

30/03/2004

Name and mailing address of the ISA

European Patent Office, P.B. 6818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Cohen, A

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 03/04906

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>EP 1 207 599 A (SAMSUNG ELECTRONICS CO LTD) 22 May 2002 (2002-05-22)</p> <p>paragraphs '0018!', '0021!', '0026!', '0043!; figures 2-6</p> <p>---</p>	<p>1-6, 12-15, 17-19, 25,29</p>
X	<p>US 5 633 527 A (LEAR KEVIN L) 27 May 1997 (1997-05-27)</p> <p>column 6, line 61 -column 7, line 12 column 14, line 57 -column 15, line 2; figures 4-9</p> <p>---</p>	<p>1-6, 12-15, 17-19, 25,29</p>
A	<p>YANSON D A ET AL: "Self-focussed distributed bragg reflector laser diodes" CONFERENCE ON LASERS AND ELECTRO-OPTICS. (CLEO 2002). TECHNICAL DIGEST. POSTCONFERENCE EDITION. LONG BEACH, CA, MAY 19 - 24, 2002, TRENDS IN OPTICS AND PHOTONICS. (TOPS), WASHINGTON, WA: OSA, US, vol. 73, 19 May 2002 (2002-05-19), pages 599-600, XP010607115 ISBN: 1-55752-706-7 the whole document</p> <p>---</p>	<p>1,2,4,10</p>
A	<p>US 2002/003918 A1 (OOI BOON SIEW ET AL) 10 January 2002 (2002-01-10) abstract paragraphs '0021!-'0025!; figures</p> <p>---</p>	<p>11</p>

INTERNATIONAL SEARCH REPORT

national application No.
PCT/GB 03/04906

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

Continuation of Box I.2

The application has been searched based on the claims alone. The claims appear not to be supported by the embodiments in the description and drawings, in which the following major inconsistency is found: The spherical surface(s) of the lens region is/are shown in the drawings and the calculation on page 10 of the description to be convex, with respect to the propagation of light from within the laser to the exterior (left to right in the drawings), as described in the application. If the refractive index of the lens region is made to be lower than that of the substrate, as stated in the description and the claims, the convex surface(s) will, however, give rise to divergence, rather than focussing, of the emitted light beam. Consequently, the claims have been searched on the basis that the curvature of the lens surface(s) is/are in fact concave, based on the lens region having a lower refractive index than the substrate material, in order to achieve the focussing effect that the application states as its object.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/04906

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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